

AMENDMENTS

Listing of Claims

The following listing of claims replaces all previous listing or versions thereof:

1. (Currently amended) A DNA segment comprising a protein coding region encoding an Osterix polypeptide, wherein said polypeptide comprises a transactivation domain, a zinc finger domain and a proline rich domain, wherein the Osterix polypeptide has the sequence of SEQ ID NO:2.
- 2-18. (Canceled)
19. (Original) The DNA segment of claim 1, wherein the Osterix coding region is positioned under the control of a promoter.
20. (Original) The DNA segment of claim 19, wherein said promoter is a recombinant promoter.
21. (Original) The DNA segment of claim 19, further defined as a recombinant vector.
22. (Original) A recombinant host cell comprising a DNA segment of claim 1.
23. (Original) The recombinant host cell of claim 22, further defined as a prokaryotic host cell.
24. (Original) The recombinant host cell of claim 23, wherein the prokaryotic host cell is a bacterial host cell.
25. (Original) The recombinant host cell of claim 24, wherein the bacterial host cell is *E. coli*.

26. (Original) The recombinant host cell of claim 22, further defined as a eukaryotic host cell.
27. (Original) The recombinant host cell of claim 26, further defined as an osteoblast.
28. (Original) The recombinant host cell of claim 27, wherein said osteoblast is a BMP2-treated C2C12 cell.
29. (Original) The recombinant host cell of claim 26, further defined as a mesenchymal precursor cell.
30. (Original) The recombinant host cell of claim 22, wherein the DNA segment is introduced into the cell by a recombinant vector comprising a DNA segment encoding an Osterix polypeptide positioned under the control of a promoter.
- 31-47. (Canceled)
48. (Original) An expression cassette comprising a polynucleotide encoding a polypeptide having the sequence of SEQ ID NO:2, wherein said polynucleotide is under the control of a promoter operable in eukaryotic cells.
49. (Previously presented) The expression cassette of claim 48, wherein said promoter is heterologous to the polynucleotide encoding a polypeptide having the sequence of SEQ ID NO:2.
50. (Original) The expression cassette of claim 48, wherein said promoter is a tissue specific promoter.
51. (Original) The expression cassette of claim 48, wherein said promoter is an inducible promoter.

52. (Original) The expression cassette of claim 48, wherein said expression cassette is contained in a viral vector.

53. (Original) The expression cassette of claim 52, wherein said viral vector is selected from the group consisting of a retroviral vector, an adenoviral vector, and adeno-associated viral vector, a vaccinia viral vector, and a herpesviral vector.

54. (Original) The expression cassette of claim 48, wherein said expression cassette further comprises a polyadenylation signal.

55. (Original) A cell comprising an expression cassette comprising a polynucleotide encoding a polypeptide having the sequence of SEQ ID NO:2, wherein said polynucleotide is under the control of a promoter operable in eukaryotic cells, said promoter being heterologous to said polynucleotide.

56-77. (Canceled)